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Subject: RE: CO Spill - Clips

Dispatch Times

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<http://www.dispatchtimes.com/plume-from-colorado-mine-spill-reaches-new-mexico/40012/>

Plume from Colorado mine spill reaches New Mexico

Newsmedia

August 10, 2015

"This was caused by the EPA and the EPA should demand the same of itself as it would of a private business responsible for such a spill, particularly when it comes to making information available to the public and state and local officials", she said.

In a news release, Begaye demanded the federal government provide water for farmers and families who rely on the river and compensate the Navajo Nation for any cleanup costs.

"We're busting our tails to get that out," Environmental Protection Agency Regional Director Shaun McGrath said.

"There's still a whole generation of abandoned mines that needs to be dealt with", said Steve Kandell of Trout Unlimited, one of the organizations backing the bill.

"When the event happened on Wednesday, the people on the ground misinterpreted, misread the severity of the impact", he said. However, EPA toxicologist Deborah McKean said the sludge moved so quickly after the spill that it would not have "caused significant health effects" to animals that consumed the water. They said samples also are being taken in New Mexico as the snout of the yellow-orange plume moves toward the San Juan River, which flows into the Colorado River.

The company said that the EPA was operating under an access agreement and that when the agency was removing backfill from the portal to the mine, a “plug blew out releasing contaminated water behind the backfill into the Animas River“.

Farmington officials have shut all intake pumps to protect the city’s water supply, so drinking water will not be affected by the breach. “It is unacceptable. We are all held up-because we don’t know the water test results”.

The National Park Service has asked people to avoid drinking, swimming or recreating on the San Juan River within Glen Canyon National Recreation Area. The plume of orange sludge reached the northern New Mexico cities of Aztec and Farmington this weekend.

Both NMED and EPA are closely monitoring the situation in New Mexico.

But, the 60-year-old headgate for the Animas Consolidated Ditch is incapable of keeping all the water from the Animas River out, Zink said.

“This is a little bit of a slower time of the year, but we’re still getting a lot of calls about boaters that are anxious about whether it’s even safe to get on the river”, he said. Officials have cautioned people to stay away from the river as they investigate the health and environmental impact of the spill. They say the source of water is farther east near Chama, an area not hit by the spill.

During the excavation, the loose material gave way, opening the adit (mine tunnel) and spilling the water stored behind the collapsed material into Cement Creek, a tributary of the Animas River.

New Mexico Gov. Susana Martinez said the state’s first notification of the spill came from Southern Ute Tribe officials.

State Environment Secretary Ryan Flynn said the EPA did not notify his department of the spill until nearly 24 hours after they’d caused it. He said the agency’s initial response to the disaster was “cavalier and irresponsible”.

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Durango Herald

<http://www.durangoherald.com/article/20150809/NEWS01/150809597&source=RSS>

Bennet, Gardner tell EPA to set an example for Animas River cleanup

Shane Benjamin

August 9, 11:27 PM

U.S. Sens. Cory Gardner, R-Colo., and Michael Bennet, D-Colo., said the Environmental Protection Agency must respond without reservation and set the right example for cleanup after unleashing an estimated 3 million gallons of toxic mine waste into the Animas River.

Andy Corra, center, co-owner of 4 Corners Riversports in Durango, talks with Colorado U.S. Sens. Michael Bennet, right, and Cory Gardner, left, on a bridge over the Animas River on Sunday morning in Durango. The politicians were getting a firsthand look of the damage done to the river after the Gold King Mine spilled about 3 million gallons of toxic waste into the water Wednesday. [Enlarge photo](#)

Jerry McBride/Durango Herald

Andy Corra, center, co-owner of 4 Corners Riversports in Durango, talks with Colorado U.S. Sens. Michael Bennet, right, and Cory Gardner, left, on a bridge over the Animas River on Sunday morning in Durango. The politicians were getting a firsthand look of the damage done to the river after the Gold King Mine spilled about 3 million gallons of toxic waste into the water Wednesday.

U.S. Sens. Cory Gardner, right, and Michael Bennet, next from right, stand on the pedestrian bridge that spans the Animas River behind the Powerhouse Science Center on Sunday in Durango. The river remains closed after toxic mine waste was unleashed Wednesday into the waterway above Silverton.

U.S. Sens. Cory Gardner, right, and Michael Bennet, next from right, stand on the pedestrian bridge that spans the Animas River behind the Powerhouse Science Center on Sunday in Durango. The river remains closed after toxic mine waste was unleashed Wednesday into the waterway above Silverton.

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Durango kayaker reacts to Animas River photo that went viral

For economic assistance

Shaun McGrath, EPA administrator for Region 8 in Denver, said residents can file a claim for loss of employment or loss of revenue. To get the form, visit www.epaossc.org/GoldKingMine and click on Standard Form 95.

The two senators toured the riverbank Sunday in Durango, five days after a mustard-yellow plume of wastewater cascaded down the shores of Cement Creek and into the Animas River.

"We are going to hold the EPA accountable to make sure that they meet the highest standard of response, and if that standard sets an example for other actors, that will be a good thing," Bennet said. "But right now, our main concern is addressing this blowout."

The senators were joined by local government officials, representatives from the rafting and agricultural industries and scientists who have been testing pH levels in the Animas River. They walked on a swaying pedestrian bridge that spans the river behind the Powerhouse Science Center and north on the Animas River Trail to about Rotary Park.

The EPA was investigating seepage from the abandoned Gold King Mine above Silverton on Wednesday when a crew removed dirt from the collapsed entrance and accidentally unleashed a torrent of wastewater that had pooled behind the loose material.

As a result, the city of Durango shut off water pumps, the La Plata County sheriff closed the river to the public, ranchers stopped watering fields, and the tourism industry fears millions of dollars in lost revenue.

Long-term environmental impacts to fish, wildlife and insects remains a mystery, in large part because the EPA has yet to release a clear picture of the level of heavy metals that flushed downstream, including lead, zinc, arsenic and cadmium. The agency did release a data table from sampling done Wednesday and Thursday, but experts were still interpreting the numbers.

"We acknowledge frustration with the turnaround time for this information," the EPA said in a news release. "Workers at the lab and data experts are working continuously to develop the information."

Colorado Parks and Wildlife placed three cages containing 108 fish in the river, and only one had died as of Sunday, from unrelated causes, said Patt Dorsey, southwest regional manager for Colorado Parks and Wildlife. "So we have had no fish mortality," she said.

City officials said the mishap highlights the need for a new water-treatment plant that would draw from Lake Nighthorse and create redundancy in the city's water supply. City Manager Ron LeBlanc said federal funding and easing bureaucratic hurdles with the Bureau of Reclamation, which oversees the Animas-La Plata Project, would help.

Marcie Bidwell, executive director of Mountain Studies Institute, said Wednesday's discharge involved one of thousands of leaky mines in the San Juan Mountains. Those mines and how we deal with them needs to be studied as part of the long-term picture, she said.

Bennet said he came to town Sunday to make sure the EPA acts urgently and provides information in a timely fashion.

"The Animas River is the lifeblood of this community," Bennet said. "We know it's not just about the economy – although that's important – it's about the way of life for people in and around Durango. When you see something like this, and you see the pictures, it's horrifying.

"Part of what we need to do is project confidence about this beautiful part of our state, where people from all over the world want to come recreate," Bennet said. "We're going to make sure that continues to be the case going forward."

When asked if the EPA should be held financially liable for interruption to businesses such as rafting companies, Bennet said, "We need to discuss what their responsibility is going forward."

Andy Corra, owner of 4 Corners Riversports, said he was having the best rafting season in years, but it came to a screeching halt Thursday. The river industry had a \$19 million economic impact according to an analysis done 10 to 12 years ago, he said, and that dollar amount has only grown.

"We're not going to recover," he said. "We're at the end our season. We've got another month normally, and I think that month is done."

The timing couldn't have been worse for those in rafting and agriculture, said La Plata County Commissioner Julie Westendorff. The event appears to be tapering off, she said, but when the next rainstorm stirs up sediment in the river, farmers and rafting companies can't wait 48 hours to seven days to know if the river is safe.

Farmers and ranchers need to know if they can irrigate fields and water cows, said Ed Zink, an area rancher and business owner. "We may need help, I don't know," he said. "We don't know that until we have information."

The EPA must lead by example, Gardner said. That means addressing immediate needs and improving transparency. He asked his staff to come up with a side-by-side comparison of how the EPA would respond if it were overseeing a private company that caused this disaster.

It will have to be determined how much responsibility the EPA bears for compensating local governments, businesses and agriculturalists, he said.

"Businesses are going to be hurt," Gardner said. "You shut down businesses that are relying on the river, and that has a ripple effect across all economies, whether it's sales-tax dollars going into city coffers, hotels booking up, outfitters having people. ..."

Roger Zalneraitis, executive director of the La Plata County Economic Alliance, who joined the walk with officials Sunday morning, said businesses should document cancellations specific to the spill and track revenue trends over the next couple of months.

"If there is going to be a system set up, people are going to want to see some documentation," he said. "Keep track of your records is the important thing at this point."

Said Gardner: "The broader message for the community, state and all across the country is Durango remains open for business; Durango remains a place where you can recreate today."

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The Guardian

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Durango copes with 'orange nastiness' of toxic sludge river pollution

Erinn Morgan

August 10, 8:23 AM

In the shadow of the jagged, 14,000-foot-plus San Juan mountain range sits the fertile valley where Jennifer James Wheeling grew up as part of a ranching family that has taken its lifeblood from the Animas River for decades. That water has been used to grow hay, sustain a grass-fed beef herd, and farm organically grown vegetables.

This week the water glowed orange, filled with heavy metals and toxins that spewed from a gold mine near Silverton, Colorado, last Wednesday after the Environmental Protection Agency (EPA) and its contractor accidentally broke open a dam wall while investigating there.

"We got the call early in the morning and we shut down all our head gates, so none of it got into our fields or our ponds," says Wheeling, who returned along with her siblings to James Ranch 15 years ago to work with their parents to grow their ranching and farming business. "They closed the [irrigation] ditch down but it's not a sealable thing so it still leaked in and our own ditch has that orange nastiness all along it."

That "orange nastiness" is a cocktail of cadmium, arsenic, lead, copper, manganese and other metals. The EPA released data Sunday revealing that it had released more than 3m gallons of the toxic sludge more than three times its original estimate – into Cement Creek, a tributary to the Animas River.

At their peak, arsenic levels were 300 times the normal level and lead was 3,500 times the normal level. Officials say those levels have dropped notably since the plume moved through the area.

The massive orange plume of that release has since moved downstream through the Animas Valley, into downtown Durango, and on through to New Mexico, where it has choked off the main water supply for farmers along the way, as well as the main drinking water supply for towns such as Aztec and Farmington plus the 27,000 square-mile Navajo Nation.

Colorado river pollution

Discoloration of the Animas River can be seen as it flows adjacent to Durango high school in the heart of Durango, Colorado. Photograph: Jeremy Wade Shockley for the Guardian

The main water supply for Durango is pulled from the Pine River, but after the city pulls out just over 5m gallons per day from this source, it looks to the Animas River. Currently, while it has asked residents to conserve, Durango is pulling water from slowly decreasing holding reservoirs.

At this stage, this event involves two states (soon to expand to four), two tribal governments, three EPA districts and multiple counties and municipalities. And, as of yesterday, the city of Durango and La Plata County declared a state of emergency.

La Plata County manager Joe Kerby said: "This action has been taken due to the serious nature of the incident and to convey the grave concerns that local elected officials have to ensure that all appropriate levels of state and federal resources are brought to bear to assist our community not only in actively managing this tragic incident but also to recover from it."

The scenic Animas River waterway, which was the backdrop for parts of the movie Butch Cassidy and the Sundance Kid, is also hugely popular for water-based recreation, including swimming, standup paddleboarding, tubing and whitewater kayaking and rafting. This is a major source of tourism and revenue for local businesses.

"It's terrible from a business standpoint and an emotional standpoint," says Alex Mickel, founder and president of Mild to Wild, a popular outfitter of rafting and off-road Jeep excursions, who says he has lost tens of thousands of dollars in business since the mine blowout occurred, with more cancellations coming in every day. "It's just devastating to see this damage happen to the river that's at the heart of your community."

Durango is an off-the-beaten-path city of nearly 17,000 people, many of whom moved there specifically to seek out a simplified mountain town lifestyle – fresh air, clean rivers, unlocked doors, backcountry and wilderness access and abundant recreation opportunities from skiing and mountain biking to backpacking and kayaking. The population is peppered with professional athletes, retirees, telecommuters and second-home owners, who have also banked on this fast-growing Four Corners hub as a real estate investment.

Animas River Colorado

Discoloration of the Animas River is evident at Santa Rita Park. This section of the river is designated as a whitewater park and kayaker slalom course. Photograph: Jeremy Wade Shockley for the Guardian

"This unfortunate event could not only affect the local business economy, but also real estate property

values down the road,” says Durango resident Darren Croke, a homeowner and rental property owner who is also a telecommuter and principal software engineer for an electric motorcycle maker in California’s Bay Area.

As the Animas River drama unfolds – and the heavy metal-laced plume continues to move downstream where it has now converged with the San Juan River, which eventually feeds into Glen Canyon National Recreation area and Lake Powell – the short-term effects are being monitored and the long-term effects are being speculated. As sediment settles into the Animas riverbed, experts have warned that Durango could see a rash of river closures for years to come as those heavy metals gets kicked up by monsoons, spring snowmelt runoff from the mountains and major weather events.

The Gold King mine continues to discharge 500 gallons per minute but the polluted water is being contained and treated in two recently dug ponds by the site of the spill, according to the EPA.

The EPA has been criticized over the past several days for the way it has handled numerous points, from not notifying the state of New Mexico about the mine release event until 24 hours after it happened, to its slow pace in releasing water test sample results (along with historical data for comparison) that would clearly indicate the extremity of the situation.

“EPA is sending out all this data but not including the background and not putting it into the context of human health,” says Dan Olson, executive director of the San Juan Citizens Alliance, a local nonprofit that advocates for clean air, pure water and healthy lands.

Despite this frustration, a number of Durango residents who place a high value on accountability, honesty and karma – Tibetan prayer flags fly at many of the colorful, historic downtown homes – have maintained a positive attitude about the potential outcomes.

“No one has talked to us directly about that [financial compensation], but we are hopeful that the EPA is going to step up and do the right thing for the community and the businesses that were impacted,” says Mickel. On Sunday night, the EPA issued a press release with information on the claims process for “compensating citizens who suffer personal injury or property damage caused by US government actions”.

Data released thus far leaves some room for optimism. Six Colorado Parks and Wildlife test cages of 108 hatchery fish have seen only one mortality in the past few days. In addition, Silverton’s nonprofit Mountain Studies Institute, a mountain research and education center, has seen little effect from the event with its macro invertebrate study.

Durango river spill

Sediment from the wastewater collects along the shallows of the Animas River at Santa Rita Park in Durango, Colorado. Photograph: Jeremy Wade Shockley for the Guardian

"We still have all the major species of invertebrates," says Aaron Kimple, MS, program director. "That's a good sign that the river is going to be able to sustain this event. If the pH dropped to critical level we would have had big die-offs."

With other potential impacts of this leak still unknown, some point to a potentially bigger problem highlighted by this event: the Silverton area lays claim to as many as 30 more abandoned mines that could experience a similar event. "There will be a next time because we haven't figured out how to deal with these problems," said Olson.

Despite the prevalence of potentially toxic legacy mines in the region, some experts suggest that the town of Silverton and surrounding San Juan County have resisted Superfund status and are still actively seeking out additional mining opportunities. "EPA has talked on and off about making San Juan County a Superfund site since the 80s," says Peter Butler, Animas Watershed co-coordinator of the Animas River Stakeholders Group.

"In the 90s we did prioritize all the different sites and identified about 30 that we thought would need remediation," Butler continues. "We also came up with water quality standards that were adopted by the state of Colorado. But Superfund status has been in limbo for years and the local community [in Silverton] is wary of this, but EPA has been pushing for it. Silverton is a community that would still like to have mining and they are concerned they won't have any investors for future mining if they receive Superfund status."

At the same time, several of these mines have been leaking into the Animas River for a decade at the rate of as much as 600 to 800 gallons a minute, according to Butler. Because it is an ongoing problem punctuated by a major, river-altering event, some are now calling for a faster answer.

"In terms of all the work done to date in mine waste remediation, it has been insufficient to protect our communities from the harm left behind from a legacy of mining," says Olson. "What we really need now is to rethink our approach. At the end of the day, our communities aren't protected, so obviously what we've done has been insufficient."

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Quartz

<http://qz.com/475723/three-million-gallons-of-toxic-waste-water-is-flowing-into-a-river-in-colorado/>

Three million gallons of toxic waste water is flowing into a river in Colorado

Cassie Werber

August 10, 6:30 AM

For days, water contaminated with arsenic, mercury, and lead has been flowing fast from an abandoned gold mine in the US state of Colorado. Now, the government agency that caused the spill during a clean-up operation has said it is bigger than first thought.

The spill at the defunct Gold King Mine began on Wednesday, when a crew from the Environmental Protection Agency, which was clearing debris and trying to find the source of existing harmful leakages into the local water supply, breached a mine wall.

Waste water burst from the breach, flooding into Cement Creek and then flowing downstream into the Animas River.

Yellow mine waste water is seen at the entrance to the Gold King Mine in San Juan County, Colorado, in this picture released by the Environmental Protection Agency (EPA) taken August 5, 2015.

On Sunday, the EPA admitted that 3 million gallons of water had flowed from the mine since the incident, upping a previous estimate on 1 million gallons. The agency has apologized for the spill. Dave Ostrander, EPA regional director of emergency preparedness, told local residents (paywall): "We typically respond to emergencies; we don't cause them."

By the weekend, the contaminated water had turned the Animas river orange and crept 75 miles south to the border with New Mexico. But the EPA had also begun containing it in purpose-built pools to help manage the pollutants it contains.

Early reports also indicated that small creatures living in the river were still alive 20 hours after the incident. But local people have been advised not to use the water for cooking or drinking.

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Slate

http://www.slate.com/blogs/the_slatest/2015/08/10/epa_mine_pollution_federal_agency_punctures_dam_at_cleanup_site

EPA Punctures Dam During Cleanup at Century-Old Mine, Sends Toxic Waste Into Rivers

Beth Ethier

August 10, 7:55 AM

The Environmental Protection Agency has acknowledged that its cleanup operation at a Colorado mine has led to the release of around three million gallons of toxic waste into the San Juan and Animas Rivers, the Washington Post reports. The agency accidentally punctured a dam holding back water filled with arsenic and heavy metals left behind by the Gold King Mine, which has been closed since 1923.

Authorities in New Mexico, downstream from the spill, complained that the EPA failed to alert them in a timely manner about the release of the toxic plume, which began last Wednesday and has turned miles of the Animas River a mustard color. Local authorities are reportedly still waiting for details from the federal agency about the contents of the waste and the Navajo Nation, worried about the loss of irrigation for members' crops from polluted waters, is weighing a lawsuit against the EPA. From USA Today:

New Mexico Gov. Susana Martinez said the state's first notification of the spill came from Southern Ute Tribe officials. "It's completely irresponsible for the EPA not to have informed New Mexico immediately," she said after flying over the affected rivers.

State Environment Secretary Ryan Flynn said the EPA did not notify his department of the spill until almost 24 hours after they'd caused it. He said the agency's initial response to the disaster was "cavalier and irresponsible."

EPA regional administrator Shaun McGrath said the agency was "busting our tails" to provide a thorough lab analysis of the contaminants, which include lead and arsenic.

Reuters reports that the EPA has tripled its initial estimate of how much waste was released from the damaged dam before crews were able to divert the spill, which was still leaking at a rate of 500 gallons per minute on Sunday, into two newly-constructed ponds. After some of the contaminants have settled to

the bottom of the ponds, the less-harmful waste will eventually released into waterways.

KUSA, an NBC affiliate in Denver, noted that there are an estimated 55,000 abandoned mines across the western U.S., with Colorado University professor Mark Williams warning that "almost every abandoned mine has the potential" to release long-dormant waste. Officials in the affected states continue working to combat the five-day-old spill, which could have a long-term impact on the region:

Mike King with the [Colorado] Department of Natural Resources said Gov. John Hickenlooper verbally declared the waste spill a state disaster, and that he would make \$500,000 available for resources.

There's no estimation for when the river may reopen. There's a concern that toxic sediment could sink into the bottom of the riverbed—something that could potentially be brought back up when a storm comes months or even years down the line.

Tainted water from the spill has reached Farmington, New Mexico, where a town hall meeting Saturday saw an EPA official heckled over the agency's response, with state environment secretary Flynn promising attendees that "we will not allow the EPA to leave until they have compensated us."

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Washington Post

<http://www.washingtonpost.com/news/morning-mix/wp/2015/08/10/what-the-epa-was-doing-when-it-sent-yellow-sludge-spilling-into-a-colorado-creek/>

What the EPA was doing when it sent yellow sludge spilling into a Colorado creek

Sarah Kaplan

August 10, 7:21 AM

The whole point of the project was to make Colorado's water safer.

Instead, while working to clean a mine in the San Juan mountains last Wednesday, workers with the Environmental Protection Agency unintentionally made the problem worse. A plug at the Gold King Mine

site failed, the mine's owners told the Denver Post, releasing 3 million gallons of toxic yellow sludge into Colorado's waterways. By Sunday night, the plume had reached Farmington, N.M., more than 100 miles to the south.

The sight of the wastewater, long pent up in a mine that hasn't been operational since 1923, shocked the state and put the EPA in the hot seat. Why was the agency using heavy machinery at a site known to be full of toxins?

The answer, like the wastewater itself, is a part of Colorado's history.

The Environmental Protection Agency says the spill of toxic wastewater from a mine in Colorado is three times larger than previously thought. Residents are being advised not to drink or bathe in well water. (Reuters)

Burrowed into the state's craggy mountains are thousands of mines like Gold King, built during the mining bonanza that marked Colorado's beginnings. Though most of them have been closed for decades, they continue to make their presence known through the acids that slowly leach — and occasionally violently burst — into the water around them.

"The great news is that modern mining does not allow the release of these waters," Elizabeth Holley, assistant professor of mining engineering at the Colorado School of Mines, told the Denver Post. "The bad news is we owe our statehood to mining prior to any environmental regulations."

The documented gold discovery in Colorado is attributed to a Georgia prospector named Lewis Ralston, who was part of a wagon train bound for the already famous mines of California. According to lore, members of the train were resting for a day and Ralston, on a whim, decided to dip his gold pan into an unnamed mountain stream. It emerged with \$5 worth of gold, a sizable sum for the time.

A fellow traveler noted in a brusque June 22, 1850, diary entry, "Lay bye. Gold found."

Members of the wagon train lingered only a few days to examine the find, but Ralston would return eight years later with a team of prospectors. Those men soon found rich gold deposits in the mountains nearby, setting off the gold rush that would turn Colorado from an unexplored frontier of Kansas territory into its own booming state. Colorado was admitted to the Union in 1876.

The towering San Juan mountains around Silverton, Colo., were opened to prospectors in 1874. By the 1880s, more than half a dozen mines were operating in the area, including Gold King, most of them run by the Sunnyside Gold Corp.

Rich with veins of silver, gold and other precious metals, the mines drew thousands of people to the area. The nearby towns — Silverton, Telluride, the aptly named Eureka — were built on the estimated \$150 million in minerals that were extracted from the mountains. But the wealth came at a cost.

When underground water runs through a mine, it picks up traces of the minerals that are buried there, explains Colorado Public Radio station KUNC. When it mixes with mineral pyrite, it reacts with air to form sulfuric acid and dissolved iron. It also picks up other heavy metals, like copper and lead, as well as any of the chemicals that miners have been using to extract the resources. By the time it trickles out of the mountain and into nearby waterways, it's an acidic, often-toxic brew.

In mineral-rich mountains like the site of the Gold King mine, this process can happen even before prospectors start digging in. Cement Creek, the waterway that was first flooded with sludge last week, had been declared undrinkable in 1876, before mining in the area became widespread, according to the Denver Post. But drilling into the mountain sped things up quite a bit.

Ginny Brannon, director of the Colorado Division of Reclamation Mining and Safety, told the Denver Post that until 1977, Colorado had few laws requiring mining companies to deal with the wastewater they created.

"Folks could go out and do what they want and walk away from the sites, and this is one of them," she said.

The Gold King mine hasn't been operational since 1923, but several other sites in the same network of mines remained open for decades after. For more than 100 years, the mines were the lifeblood of the surrounding community. They provided the bulk of the jobs and one-third of the county's annual tax revenue, according to the Durango Herald.

Even two major disasters in the 1970s — a breach in a "tailing pond" (the basins that store contaminated water for processing) that sent tons of wastewater into the local watershed and a 1978 lake collapse that flooded the mine with water and a million tons of mud — didn't dampen support for the operation.

The multimillion-dollar cleanup costs did. In 1991, Sunnyside shut down its last mine in the area. And much of San Juan County was shut down with it.

“We lost half our population,” Beverly Rich, the county treasurer and chairwoman of the San Juan County Historical Society, told Westword magazine in 2005. “We went from about 200 children to 43 kids in our school. We lost one-third of our county tax revenue. We lost a lot of our volunteer firemen — and good-paying jobs. Mining pays well, and tourism jobs don’t quite cut the mustard.”

The effects of more than a century of mining didn’t disappear along with them. They’re easily visible in the histories of local community, which often glorify their mining past. Silverton’s motto, after all, is “The mining town that never quit.”

“Did mining kill people? Of course, it killed people. Driving cars kills people, too. Do you want to get rid of cars?” Historian Duane Smith, a Durango resident and Fort Lewis College professor who has written several books about Silverton, told the Durango Herald in 2013. “Silverton owes its existence to mining, that’s the truth.”

The lingering effects are also noticeable in the area’s waterways, which were suffering even before this latest breach. According to the Herald, three of the four fish species in the Upper Animas water basin (which includes Cement Creek and drains into the Animas River) disappeared between 2005 and 2010. Five years after that, the river was completely devoid of fish.

Insects and bird species have also fared poorly. And tests of the water flowing into Bakers Bridge, about three dozen miles south of Silverton, found that it carried concentrations of zinc toxic to animals. U.S. Geological Survey Scientists told the paper that the area was the largest untreated drainage site in the state.

The Animas River Stakeholders Group that was set up to deal with the issue after the mines were closed, which includes Sunnyside Gold Corp., didn’t have the estimated \$12 million to \$15 million it would take to treat the contaminated runoff. And for years, Silverton residents resisted EPA involvement out of fear that the “Superfund” label given to the nation’s worst hazardous waste sites would jeopardize the tourism industry — the only source of income that could replace the vanished mines. A few even hoped that the mines would reopen one day.

Meanwhile supporters of EPA intervention accused Sunnyside of stonewalling the cleanup attempt to avoid liability.

The two sides reached an agreement of sorts this year. The mines would not be designated a Superfund site, and the EPA would provide \$1.5 billion to plug the problematic Red and Bonita mine, where polluted water drained at a rate of 500 gallons per minute, according to the Durango Herald.

But water has a habit of finding its way downhill, and plugging one mine often means it simply leaks from others, so the agency had to excavate and stabilize the Gold King mine upstream.

That's what they were up to on Aug. 5, when the loose material holding the mine together finally gave way. The water that had accumulated in the mine's long-abandoned tunnels went tumbling into Cement Creek.

"It was known that there was a pool of water back in the mine, and EPA had a plan to remove that water and treat it, you know, slowly," Peter Butler, who serves as a co-coordinator of the stakeholders group, told KUNC. "But things didn't go quite the way they planned and there was a lot more water in there than they thought, and it just kind of burst out of the mine."

The EPA has taken a lot of flak for the way it handled the incident — residents weren't notified for 24 hours after the breach. But agency officials said that the toxic flood just highlights the need to deal with the rest of the state's 22,000 abandoned mines.